REMARKS

Claims 1 to 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,065,087 hereinafter Keaveny, in view of U.S. Patent No. 6,161,155, hereinafter Simms.

In the rejection of Claim 7, the Examiner stated in part:

> . . . Keaveny et al. teach a SCSI initiator system comprising:
>
> > a target execution queue (target) and a SCSI target wherein the target execution queue is stored in a memory (see fig. 3A-3C; col. 4, lines 40-67); and
> >
> > a packetized SCSI protocol hardware packet engine (initiator; fig. 3A-3C) coupled to the target execution queue, wherein the packetized SCSI protocol hardware packet engine transmits a packetized SCSI protocol command block in said target execution queue (target devices) with substantially zero latency between transmission of adjacent packetized SCSI protocol command blocks (by providing greater throughput; col. 2, lines 36-54).

Applicant respectfully traverses the obviousness rejection of Claim 7. Figs. 3A to 3C are not a target execution queue, and a target is not a target execution queue. According to Keaveny, "FIGS. 3A-3C **illustrate the SCSI protocol** involved in the initiation and implementation of read and write I/O commands." (Emphasis added). (Keaveny, Col. 2, lines 60-62.) An illustration of the SCSI protocol fails to suggest or disclose:

> a target execution queue containing at least two hardware I/O control blocks for a SCSI target wherein the target execution queue is stored in a memory.

The description at Col. 4, lines 40-67 of Keaveny generally describes a SCSI configuration in 1998. Nowhere has

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the Examiner cited any teaching or reference to the "Packetized SCSI Protocol," or to the target queue as recited in Claim 7.

Applicant described the same information the Examiner cited in Fig. 3A-3C of Keaveny by stating:

> Prior to the Packetized SCSI Protocol, the SCSI Protocol utilized the well-known SCSI bus phases, Message Out, Message In, Command, Data Out, Data In, and Status to exchange information and data between a SCSI initiator and a SCSI target over a SCSI bus. Only one command block (CDB) was transferred for each connection of a SCSI initiator to a SCSI target.
>
> Typically, for a SCSI host adapter as the SCSI initiator, the SCSI host adapter waited for the SCSI bus to become free, arbitrated for the bus, and then selected a target. Usually, the SCSI host adapter sent three messages to the target and then changed the SCSI bus phase to phase Command. A sequencer on the host adapter moved a CDB from a sequencer control block (SCB) that was received from a host to a DMA channel that in turn transferred the CDB over the SCSI bus to the SCSI target.
>
> After the SCSI target received the CDB, the SCSI target disconnected from the SCSI bus by changing the bus phase to phase Message In, and then sending one or two messages to the SCSI host adapter. After sending the messages, the SCSI target actually disconnected from the SCSI bus.
>
> For the SCSI host adapter to send another CDB to this target, this complete sequence was repeated. The time between the SCSI target receiving the end of the first CDB and the beginning of the second CDB, **as mandated by the SCSI specification**, was a few microseconds, which was a significant amount of time compared with the total time required to execute the CDB. In addition, the time required by the sequencer to move each byte of the CDB from the SCB to the DMA channel was about 50 nanoseconds.

Specification, page 1 line 17 to page 2, line 13. (Emphasis added.)

Thus, the Examiner has cited nothing in Keaveny other than the admitted prior art in Applicant's application as quoted above. The Examiner made a conclusory comment about providing greater throughput that completely ignores the timing

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requirements of the SCSI protocol used in Keaveny. Any throughput increase would be subject to the requirements of the SCSI Protocol. Applicant respectfully submits that if the Examiner is going to modify the SCSI Protocol timing requirements known to those of skill in the art, the Examiner must provide both a teaching for the motivation and a teaching of how the protocol would work with the modification.

Further, Applicant expressly pointed out how the Packetized SCSI Protocol differed from the SCSI Protocol in Keaveny. For example,

> With the Packetized SCSI Protocol, information that was previously conveyed between the SCSI initiator and the SCSI target during bus phases Message, Command, and Status is now conveyed via packets, called information units, during data phases. Specifically, to capitalize on the higher data throughput during the SCSI data phases, the Packetized SCSI Protocol specifies that all information exchanged between a SCSI initiator and a SCSI target is done via information units (IU), in either phase Data In or phase Data Out phases exclusively. Each CDB is conveyed to a target via two packets.

Specification, page 2, lines 27 to page 3, line 2. (Emphasis added.)

Therefore, the background section of Applicant's disclosure establishes differences between the information relied upon by the Examiner and the "Packetized SCSI Protocol." The Examiner has neither cited nor explained how Keaveny would be modified to conform to the Packetized SCSI Protocol. The SCSI Protocol in Fig. 3A-3C of Keaveny teaches away from Applicant's invention as recited in Claim 7.

In addition, the Examiner has mischaracterized the secondary reference. The Examiner stated, "Simms et al. teach two hardware I/O control blocks (data packet A and data packet B; item 32, fig. 1)." First, Simms is describing a target

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device and not an initiator system as recited in Claim 7. Second, the data packets are not I/O control blocks. Accordingly, the Examiner's characterization of the reference itself shows that the interpretation is not well founded.

Fig. 3A of the primary reference in "Command 328" showed a block 330 that was described as "I/O command 330". Fig. 3B of the primary reference in "Data ... 358" shows data blocks. This unambiguously shows that the Examiner's equivalence between data packets and I/O command is not well founded and in fact is incorrect in view of the primary reference.

Further, Simms stated "the number of data packets that will be transmitted during the block transfer." Sims, Col. 3, lines 50-51. Thus, the reference teaches that the data packet relied upon by the Examiner are a subset of a block and not a block. Therefore, the reliance upon the secondary references mischaracterizes the reference at multiple levels.

Finally, there is no basis for modifying the primary reference initiator device based upon a storage mechanism used on a target device for a subset of a block. The comments about a logical link of the Examiner completely ignore the requirements of the Packetized SCSI protocol as well as the SCSI protocol in the two prior art references. Applicant requests reconsideration and withdrawal of the obviousness rejection of Claim 7.

In the obviousness rejection of Claim 8, the Examiner cited to parts of Keaveny that describe the prior art SCSI bus phases as shown in Figs. 3A to 3B. The Examiner failed to cite any teaching of a hardware information unit transfer controller that "sequences generation of the Packetized SCSI Protocol command blocks." The Examiner has failed to cite any teaching or suggestion of the Packetized SCSI Protocol. Accordingly, the Examiner has failed to explain how the prior art SCSI protocol and the phase sequences for that protocol has anything to do with Applicant's invention as recited in Claim 8. In

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addition, Claim 8 distinguishes over the combination of references for at least the same reasons as given above for Claim 7, which are incorporated herein by reference. Applicant requests reconsideration and withdrawal of the obviousness rejection of Claim 8.

Similarly, for Claim 9, "a command L_Q information unit" is a specific structure of which the Examiner has failed to cite any teaching or suggestion in either of the two prior art references. The Examiner is required to consider this express claim limitation. In addition, Claim 9 distinguishes over the combination of references for at least the same reasons as given above for Claims 7 and 8 which are incorporated herein by reference. Applicant requests reconsideration and withdrawal of the obviousness rejection of Claim 9.

With respect to Claims 10 and 11, the Examiner has used the identical rejection for both claims. However, the scopes of the Claims are different. Claim 10 depends only from Claim 8, while Claim 11 depends from Claims 8 and 9. Therefore, again the very rejection shows that the rejection is not well founded and in fact is incomplete for at least one of the claims. In addition, Claims 10 and 11 distinguish over the combination of references for at least the same reasons as given above for the claims upon which they depend, which are incorporated herein by reference. Applicant requests reconsideration and withdrawal of the obviousness rejection of each of Claims 10 and 11.

With respect to Claims 12 to 15, the Examiner has used the identical rejection for each claim, and cites only to a pointer register, and not the specific pointer register recited. Also, again, the scopes of these Claims are different, but this is ignored in the rejection. The MPEP requires that explicit claim limitations be considered. Claim 12 depends from Claims 8 and 9; Claim 13 depends from Claims 8 and 10; Claim 14 depends from Claims 8, 9 and 11; Claim 15 depends from Claims

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8, 9, 11 and 14. Given that each of Claims 12 to 15 has a different scope, the rejection shows that the rejection is not well-founded and is in fact incomplete for at least two, if not more, of the claims. In addition, Claims 12 to 15 distinguish over the combination of references for at least the same reasons as given above for the claims upon which they depend, which are incorporated herein by reference. Applicant requests reconsideration and withdrawal of the obviousness rejection of each of Claims 12 to 15.

With respect to the obviousness rejection of Claim 1, the Examiner cited the rejection of Claims 7 to 15. Applicant respectfully traverses the rejection of Claim 1 and incorporates herein by reference the above remarks with respect to Claim 7. Further, the Examiner has failed to cite any teaching or suggestion in either reference of the Packetized SCSI Protocol command blocks. Applicant requests reconsideration and withdrawal of the obviousness rejection of Claim 1.

With respect to the obviousness rejection of Claim 2, the Examiner cited the rejection of Claims 7 to 15. Claim 2 recites:

> transmitting at least one byte in said first Packetized SCSI Protocol command block directly from a storage location of said at least one byte.

This limitation is not recited in Claims 7 to 15. Accordingly, the Examiner has failed to establish a prima facie obviousness rejection of Claim 2. In addition, Claim 2 depends from Claim 1 and so distinguishes over the combination of references for at least the same reasons as given above for Claim 1, which are incorporated herein by reference. Applicant requests reconsideration and withdrawal of the obviousness rejection of 2.

Claims 3 to 6 depend from Claim 2 and so distinguish over the combination of references for at least the same reasons as

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given above for the claims upon which they depend, which are incorporated herein by reference. Applicant requests reconsideration and withdrawal of the obviousness rejection of each of Claims 3 to 6.

With respect to the obviousness rejection of Claims 16 to 20, the Examiner relied upon the rejection of Claims 7 to 15. Again, this is error because Claims 16 to 20 are directed to a different structure than that recited in Claims 7 to 15. Moreover, the Examiner has failed to cite any teaching of a device that has any relationship to the Packetized SCSI Protocol. The above discussion of Keaveny and Simms with respect to Claim 7 is incorporated herein by reference. Applicant requests reconsideration and withdrawal of the obviousness rejection of each of Claims 16 to 20.

With respect to Claim 21, the Examiner has cited no teaching of "a command information unit" or transferring information for the command information unit from two different locations--the hardware I/O command block and a register. Accordingly, the Examiner has failed to establish a prima facie obviousness rejection of Claim 21. Applicant requests reconsideration and withdrawal of the obviousness rejection of Claim 21.

Claims 1 to 21 remain in the application. For the foregoing reasons, Applicant respectfully requests allowance of all pending claims. If the Examiner has any questions relating to the above, the Examiner is respectfully requested to telephone the undersigned Attorney for Applicant(s).

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on **April 1, 2004**.

Attorney for Applicant(s) — April 1, 2004 Date of Signature

Respectfully submitted,

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